



## **Late-glacial environmental oscillations as recorded in the soil archives of Gasserplatz (Vorarlberg, Austria).**

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Gasserplatz is a shallow basin in the rather flat, glacially eroded confluence area of the former Rhine glacier and the Ill glacier. It became ice-free during the Feldkirch stadium ( $\approx 15.500$  calBP) and transferred in a tiny lake.

During the Late-glacial lacustrine carbonate (calcareous gyttja) was deposited, in the Holocene peat accumulated. Gasserplatz deposits are valuable soil archives for palaeo-environmental research.

The Late-glacial environmental fluctuations have been recorded in the gyttja deposits. The combined results of pollen, macro-remains and stable isotope analyses that have been put into an independent time frame demonstrate that these fluctuations are associated with large scale temperature oscillations as registered in Greenland ice cores. The results show also a slight delay in environmental response on temperature change.

The isotope stratigraphy points to higher temperatures during the whole Bølling while *Betula* trees arrived in Gasserplatz area later. During the Allerød there are frequent short-lived oscillations in temperature, but the palynological expression of these changes resulted in not more than three *Betula* peaks.

Comparison with the research results of similar Alpine lake deposits makes clear that the fluctuations in the *Betula* curve are not a local but a regional phenomenon.